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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,479	08/28/2003	Martin R. Elliott	7096/SYNX/JB	6122

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EXAMINER

LOWE, MICHAEL S

ART UNIT	PAPER NUMBER
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3652

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/650,479

Applicant(s)

ELLIOTT ET AL.

Examiner

M. Scott Lowe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/13/03, 4/13/04, 5/12/04, 9/15/04, 7/19/05 (two).
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 101 & 35 USC § 112

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8,17,18 are rejected under 35 U.S.C. 101 because the claim overlaps two different statutory classes of invention (apparatus and process/method). See MPEP 2173.05p(II).

Claims 8,17,18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,5,6,8-10,13-15,17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Garric (US 5,382,127).

Re claims 1,19 Garric teaches a method of supplying substrates 138 to a processing tool (503,etc.), comprising:

- providing a plurality of load ports 200 (closest number) each having a mechanism adapted to open a substrate carrier 100;
- providing a factory exchange location 401A,B,C (closest numbers) at which substrate carriers 100 are exchanged with a substrate carrier transport device 401 while the substrate carriers 100 are in motion and being transported by the substrate carrier transport device 401;
- providing a carrier handler (not numbered, column 36, lines 54+) having an end effector (not numbered) adapted to contact a substrate carrier 100, the carrier handler being adapted to transport substrate carriers between the factory exchange location and the plurality of load ports;
- receiving a first plurality of substrate carriers 100 at the factory exchange location from the substrate carrier transport device 401; and
- for each the first plurality substrate carriers:
 - transporting the substrate carrier 100 from the factory exchange location directly to a respective one of the plurality of load ports;
 - docking and opening the substrate carrier at the respective load port;
 - undocking and closing the substrate carrier at the respective load port;
 - transporting the substrate carrier 100 from the respective load port directly to the factory exchange location; and
 - returning the substrate carrier to the substrate carrier transport device.

Re claims 2,9, Garric teaches the substrate carriers 100 are single substrate carriers.

Re claims 5,13, Garric teaches the docking of each substrate carrier 100 occurs simultaneously with opening of the respective substrate carrier.

Re claims 6,14, Garric teaches the factory exchange location and the load ports have substantially the same footprint.

Re claims 8,10,17, Garric teaches a substrate loading station for a processing tool (503,etc.), comprising:

a first and second plurality of load ports 200 (closest number), the second plurality of load ports being spaced apart from and to a side of the first plurality of load ports, operatively coupled to the processing tool (503,etc.) and each having a mechanism adapted to open a substrate carrier 100;

a factory exchange location 401A,B,C (closest numbers) at which substrate carriers 100 are exchanged with a substrate carrier transport device 401 while the substrate carriers are in motion and being transported by the substrate carrier transport device 401; and

a carrier handler having an end effector adapted to contact a substrate carrier, the carrier handler (not numbered, column 36, lines 54+) being adapted to transport substrate carriers 100 between the factory exchange location 401A,B,C (closest numbers) and the first plurality of load ports 200 (closest number);

wherein the carrier handler has a controller (600,etc.) capable of being programmed to perform the steps of:

for each of the first plurality of substrate carriers:

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transporting the substrate carrier from the factory exchange location directly to a respective one of the plurality of load ports;
docking and opening the substrate carrier at the respective load port;
undocking and closing the substrate carrier at the respective load port;
transporting the substrate carrier from the respective load port directly to the factory exchange location; and
returning the substrate carrier to the substrate carrier transport device.

Re claims 15, Garric teaches the substrate carrier transport device 401 is a conveyor.

Re claims 18,20, Garric teaches an apparatus adapted to supply substrates to a processing tool (503,etc.), comprising:

a substrate carrier handler (401 or unnumbered, column 36, lines 54+) adapted to transport a substrate carrier 100 to a first load port 200 (closest number) of the processing tool, the substrate carrier handler including:
a vertical guide (the base, floor, etc.);
a horizontal guide (the base, floor, etc.) coupled to the vertical guide; and
an end effector (not numbered) adapted to support the substrate carrier 100 and to move vertically relative to the vertical guide and horizontally relative to the horizontal guide; and
a controller 600 (etc.) coupled to the substrate carrier handler and operative to control the substrate carrier handler such that the end effector of the substrate carrier handler

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disengages the substrate carrier from a substrate carrier conveyor positioned adjacent the substrate carrier handler, the controller further capable to perform the steps of: transporting the substrate carrier from the substrate carrier conveyor directly to the first load port; docking and opening the substrate carrier at the first load port; undocking and closing the substrate carrier at the first load port; and returning the substrate carrier directly to the substrate carrier conveyor.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garric (US 5,382,127) in view of Matsumoto (US 6,517,304).

Re claim 3, Garric teaches groups of two load ports, but does not teach stacking the load ports. Matsumoto teaches stacking load ports 31. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Garric by the general teaching of Matsumoto to stack load ports in order to save space.

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Claims 4,11,12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garric (US 5,382,127) in view of Matsumoto (US 6,517,304) and further in view of Asakawa (JP 10256346).

Re claims 4,11,12, Garric teaches (not numbered, column 36, lines 54+) that the carrier handler may be any type of device (and thus type of movement). Asakawa teaches placing a carrier handler 14,15 between load ports and in order to reduce footprint and increase efficiency (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Garric by the general teaching of Asakawa to have the carrier handler move the substrate carriers only within an envelope defined by footprints of the two stacks of load ports in order to promote efficiency and reduce the footprint.

Claims 7,16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Garric (US 5,382,127) in view of Kimura (US 6,439,822).

Re claims 7,16, Garric does not teach the factory exchange location is at a height greater than respective heights of all of the load ports. Kimura teaches that having the substrate carrier transport device 51 at a height greater than respective heights of all of the load ports creates a more efficient layout saving space and money (column 8, lines 2-3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Garric by the general teaching of Kimura to have the substrate carrier transport device 401 (and thus the factory exchange location) at a

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height greater than respective heights of all of the load ports creates a more efficient layout saving space and money.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Scott Lowe whose telephone number is (571) 272-6929. The examiner can normally be reached on 6:30am-4:30pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on (571) 272-6929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msl



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